



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,772	02/03/2004	Hanan Keren	27519	9282
7590	08/25/2006		EXAMINER	
Martin D. Moynihan PRTSI, Inc. P. O. Box 16446 Arlington, VA 22215			LAMPRECHT, JOEL	
			ART UNIT	PAPER NUMBER
			3737	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/769,772	KEREN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Joel M. Lamprecht	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 02/03/2004.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 6/14/2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. **37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office**, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Priority***

2. It is noted that this application appears to claim subject matter disclosed in prior Application No. 60/444,188, filed 02/03/2003. **A reference to the prior application must be inserted as the first sentence(s) of the specification of this application or in an application data sheet (37 CFR 1.76)**, if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e), 120, 121, or 365(c). See 37 CFR 1.78(a). For benefit claims under 35 U.S.C. 120, 121, or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of all nonprovisional applications. If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference to the prior application must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after

November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its

inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In light of the specification where the supply and means for varying the RF current are disclosed as separate devices it is not clear what is meant by "having means for varying the RF current supplied to each of said RF coils" as the passage implies they are one.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 3, 5, 6, 8, 10, 12, 13, 14, 15, 17, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Pulyer et al (5,572,132).

7. Pulyer et al disclose the same invention including a magnet generating a homogenous magnetic field (fig 1a, 7, 8), gradient coils (2, Col.. 5, lines 5-6)

surrounding the magnet: Note from figure 1 that the coils naturally generate a magnetic field (B1) and has a longitudinal axis parallel to the probe (Col. 4 Line 65 - Col. 5 Line 18);

8. Regarding claim 2, Pulyer et al disclose rf coils (Col. 2 35-40), located along the outer surface of the permanent magnet orthogonal (Col. 5 Line 11,12) to each other and have longitudinal axes parallel to the longitudinal axis of said probe;

9. Regarding claims 3 and 15, note that the probe is intended for insertion into a patient's body (Col. 5 Line 20-30, also see Col. 1 Line 5-20 for a list of cited applications);

10. Regarding claim 5, Pulyer et al disclose an RF current supply and means for varying the RF current supplied to each RF coil (Col. 8 Line 64 – Col. 9 Line 10).

11. Regarding claim 6, 8, and 10, Pulyer et al disclose a solid cylindrical magnet that generates a homogenous diametrical magnetic field, axial magnetic field, or radial magnetic field  $B_\theta$  within certain proximity to the magnet (Col. 1 Line 5-20 or Col. 2 Line 9-22 and Line 49-64);

12. Regarding claim 12, Pulyer et al disclose a permanent magnet of permanent magnetic material for the length of the probe (Col. 3 Line 5-20);

13. Regarding claim 14, Pulyer disclose all that is noted above; specifically that the coils enclosing the permanent magnet are located on the outer surface of the magnet;

14. Regarding claims 13 and 18, Pulyer et al disclose a probe including an end section of ferromagnetic permanent magnetic material at each of the opposite ends of

the probe, and an intermediate section of an unsaturated, high-permeability material between said end sections (Col. 2 Line 65 – Col. 3 Line 12).

15. Regarding claim 19, Pulyer et al disclose all that is listed above: Note specifically that the coils enclosing the permanent magnet are located on the outer surface of the permanent magnet, which can be sized and configured for introduction into a lumen of a person's body (Col. 5 Line 20-30, also see Col. 1 Line 5-20 for a list of cited applications).

#### ***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pulyer et al (132).

18. Pulyer et al disclose the invention substantially as claimed except for the construction of the permanent magnet as a dome-shaped configuration at its opposite ends to facilitate the introduction of the probe into the lumen.

19. Nevertheless, the Examiner takes Official Notice that many different devices used primarily through insertion into a cavity are conventionally tapered and rounded (dome-shaped) at both ends so as to ease the insertion process and inflict as little

damage on the lumen. In support of this assertion, Pulyer et al disclose a pole cap having complex shapes like those in Figure 1 (Col. 5 Line 38-45). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have constructed the permanent magnet in a dome-shaped configuration at both ends in order to facilitate ease of insertion.

20. Claims 7, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pulyer (132) in view of Golan (6,600,319).

21. As noted above, the Pulyer sufficiently discloses the claimed invention except for a hollow cylindrical magnet configuration. Attention is then directed to the Golan reference, which discloses an NMR probe magnet having a hollow cylindrical configuration. To provide such a design on the Pulyer et al design would have been obvious to one skilled in the art in view of the teachings of Golan (Col. 5 Line 22-30) for purposes of facilitating continued flux in a region where turbid medium flows (such as a blood vessel).

22. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pulyer (132) in view of Pacetti (6,574,497). Pulyer discloses the probe defined in Claim 19, but does not disclose a catheter for introduction into a lumen of a person's body comprising a bifurcated sleeve having one bifurcation receiving the probe and another bifurcation for receiving a guidewire for guiding the probe to a desired location within said lumen. Attention is then directed to the Pacetti reference, which discloses a catheter comprising a bifurcated sleeve having one bifurcation capable of receiving the probe defined in Claim 19, and another bifurcation for receiving a guidewire to place the probe to a

specific location within a patient's lumen (Figures 11 and 12). Accordingly, it would have been obvious to one skilled in the art at the time the invention was made to have required a catheter comprising a bifurcated sleeve in order to facilitate induction and accuracy during the operation.

***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 3,227,931 A (Alder, Robert) "Permanent-magnet uniform-field-producing apparatus", US 6437569 B1 (Minkoff; Lawrence A. et al.) "Expandable MRI receiving coil", US 5558091 A (Acker; David E. et al.) "Magnetic determination of position and orientation", US 6175757 B1 (Watkins; Ronald Dean et al.) "Luminal mapping", US 6263229 B1 (Atalar; Ergin et al.) "Miniature magnetic resonance catheter coils and related methods", US 6704594 B1 (Blank; Aharon et al.) "Magnetic resonance imaging device", US 5323113 A (Cory; David G. et al. ) "NMR probe which includes B1, gradient coils", US 6377048 B1 (Golan; Erez et al.) "Magnetic resonance imaging device for operation in external static magnetic fields", US 6051974 A (Reisker; Theodore J. et al.) "MRI endocavitory coils and decontamination", US 20040143286 A1 (Johnson, Eric G. et al.) "Catheter with disruptable guidewire channel", and finally US 20020173835 A1 (Bourang, Henry et al.) "Short sleeve stent delivery catheter and methods".

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joel M. Lamprecht whose telephone number is (571) 272-3250. The examiner can normally be reached on Monday-Friday 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JML 8/7/06

*Guy Vidar*  
SPE  
TC 3700